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HEALTH STATUS BENEFITS OF ANGIOPLASTY FOR CHRONIC TOTAL OCCLUSIONS - AN ANALYSIS FROM THE OPS/PRISM STUDIES

i2 Poster Contributions
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Background: Percutaneous coronary intervention (PCI) of Chronic Total Occlusions (CTOs) remains controversial, partly due to the paucity of data on the health status (symptoms, functioning and quality of life) benefits of CTO PCI. We hypothesized that these benefits are comparable to non-CTO PCI.

Methods: We leveraged a 10-center prospective registry of PCI patients consenting to health status assessments with the Seattle Angina Questionnaire (SAQ) at the time of PCI and in follow-up. After identifying all of the CTO PCIs attempted, we created propensity scores, based upon 40 variables, including demographic and clinical characteristics, baseline health status, procedure indication, diseased vessels and the specific coronary segments approached in order to match attempted CTO PCIs with up to 10 non-CTO PCIs. The primary analysis compared changes in SAQ Physical Limitation (PL), Quality of Life (QoL) and Angina Frequency (AF) scores as well as the Rose Dyspnea scores (RDS) between baseline and 6 months. The effect of CTO PCI on 6-month health status was estimated using mixed effect models, adjusting for matched sets and baseline health status. Non-inferiority was assessed for changes in health status scores between CTO and non-CTO PCI.

Results: There were 3,209 patients enrolled at 10 hospitals in which 273 single-vessel CTOs were detected and 124 attempted. Of these, 98 (79%) were matched with 687 patients undergoing non-CTO PCI. Baseline PL scores were lower for CTO (72.1 vs. 77.9, p=0.016) while they were no different for AF (CTO 70.1 vs. 72.9, p=0.21), QoL (CTO 54.3 vs. 56.0, p=0.49) or RDS (CTO 1.9 vs. 1.7, p=0.21). At 6-month follow-up, all scores improved and were equivalent for CTO and Non-CTO (PL CTO 96.2 vs. 95.7, p=0.74; AF CTO 91.0 vs. 93.2, p=0.13; QoL CTO 80.6 vs. 80.5, p=0.95 and RDS CTO 1.0 vs. 0.9, p=0.50). A formal test of non-inferiority demonstrated that CTO PCI was not inferior to non-CTO PCI ($p \leq 0.02$ for all).

Conclusions: These data suggest that symptoms, function, QoL and dyspnea improve to the same degree following CTO PCI as non-CTO PCI, and that 6 months after PCI there is no significant difference in health status for CTO vs. non-CTO PCI.